What is claimed is:

1. A nonvolatile display comprising

   a plurality of electrodes arranged opposite each other; and

   a nonvolatile solid state electro-optic medium disposing between the electrodes,

   wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field.

2. A display as in claim 1 wherein the electrodes are arranged in the form of cross bar array for applying electric field to selected areas of the nonvolatile solid state electro-optic medium.

3. A display as in claim 1 further comprising two substrates arranged opposite each other, wherein the electrodes are disposed on the inner surfaces of the substrates.

4. A display as in claim 1 further comprising a plurality of polarizer layers sandwiching the nonvolatile solid state electro-optic medium, the polarizer layers polarizing incident light.

5. A display as in claim 1 wherein at least one electrode is transparent.

6. A display as in claim 5 wherein the transparent electrode is made of indium tin oxide.

7. A display as in claim 1 wherein the nonvolatile solid state electro-optic medium is a manganite.

8. A display as in claim 1 wherein the nonvolatile solid state electro-optic medium is a manganite having a $Re_{1-x}Ae_xMnO_3$ structure with Re being a rare earth elements and Ae being an alkaline earth elements.

9. A display as in claim 1 wherein the nonvolatile solid state electro-optic medium is selected from a group consisting of $PrCaMnO_3$ (PCMO), $LaCaMnO_3$ (LCMO), $LaSrMnO_3$ (LSMO), $LaBaMnO_3$ (LBMO), $LaPbMnO_3$ (LPMO), $NdCaMnO_3$

(NCMO), $NdSrMnO_3$ (NSMO), $NdPbMnO_3$ (NPMO), and $LaPrCaMnO_3$ (LPCMO).

10. A nonvolatile solid state electro-optic device comprising

    a nonvolatile solid state electro-optic medium

    wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field.

11. A nonvolatile solid state electro-optic modulator comprising

    a first electrode;

    a second electrode offset from the first electrode;

    a nonvolatile solid state electro-optic medium disposing in the close proximity of the two electrodes whereby the optical properties of the electro-optic medium can be influenced by the electric field established by the two electrodes; and

    a plurality of optical waveguides supported in the electro-optic medium;

    wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field.

12. A modulator as in claim 11 further comprising a plurality of insulator layers disposing between the electrodes and the electro-optic medium.

13. A modulator as in claim 11 further comprising a plurality of cladding layers covering the waveguides.

14. A modulator as in claim 11 wherein the optical waveguides are embedded in the electro-optic medium.

15. A modulator as in claim 11 wherein the modulator further comprises a third electrode and functions as an interferometer.

16. A modulator as in claim 11 wherein the modulator comprises one optical waveguide and functions as a phase modulator.

17. A modulator as in claim 11 wherein the modulator comprises two optical waveguide and functions as an amplitude modulator, a directional coupler or a waveguide switch.

18. A modulator as in claim 11 wherein the nonvolatile solid state electro-optic medium is a manganite.

19. A modulator as in claim 11 wherein the nonvolatile solid state electro-optic medium is a manganite having a $Re_{1-x}Ae_xMnO_3$ structure with Re being a rare earth elements and Ae being an alkaline earth elements.

20. A modulator as in claim 11 wherein the nonvolatile solid state electro-optic medium is selected from a group consisting of $PrCaMnO_3$ (PCMO), $LaCaMnO_3$ (LCMO), $LaSrMnO_3$ (LSMO), $LaBaMnO_3$ (LBMO), $LaPbMnO_3$ (LPMO), $NdCaMnO_3$ (NCMO), $NdSrMnO_3$ (NSMO), $NdPbMnO_3$ (NPMO), and $LaPrCaMnO_3$ (LPCMO).